

## REMARKS

### I. STATUS OF CLAIMS

Claims 1-12 are currently pending.

### II. REJECTION OF CLAIMS OVER SHARMA (USP 6,081,355) IN VIEW OF RUBINSTEIN (USP 3,430,048), OR OVER SHARMA AND RUBINSTEIN IN COMBINATION WITH OTHER REFERENCES

Claim 1 recites time-division multiplexing the optical pulses output by said optical pulse source by branching the optical pulses output by said optical pulse source to N paths and multiplexing the branched optical pulses so as to output optical pulses with a repetition frequency which is an integral multiple of said designated repetition frequency  $f_0$ , wherein a time difference among the respective paths is  $1/(N \cdot f_0)$ , *and so that intensities and polarization states of the branched optical pulses are equal after being multiplexed.*

See, for example, in FIG. 5, and the disclosure on page 9, line 25, through page 10, line 4, of the specification.

Therefore, claim 1 specifically recites that *intensities and polarization states of the branched optical pulses are equal after being multiplexed.*

In the outstanding Office Action, the Examiner rejects the claims over the configuration in FIG. 9 of Sharma.

FIG. 9 of Sharma discloses an optical splitter 61 which distributes an optical pulse train to a number N of paths that provide relative delaying of the optical pulse trains. The delayed pulse trains are multiplexed together by star coupler 62.

However, it is respectfully submitted that Sharma does not disclose or suggest that intensities of the optical pulses are equal after being multiplexed as recited, for example, in claim 1.

Please note that, in FIG. 9 of Sharma, there are no mechanisms inserted in the different paths  $1/N$ ,  $2/N$ ,  $3/N$  to ensure equal intensities of pulses traveling the different paths.

In fact, on page 3 of the outstanding Office Action, the Examiner concedes that Sharma does not expressly disclose that intensities of the branched optical pulses are equal after being multiplexed. Instead, the Examiner cites Rubenstein as showing intensities being equal after being multiplexed.

However, the device of Rubenstein has a substantially different structure than the device of Sharma. For example, the device of Rubenstein does not provide the specific different paths  $1/N$ ,  $2/N$  and  $3/N$  as shown in FIG. 9 of Sharma. Therefore, it is respectfully submitted that Rubenstein should not be combined with Sharma.

Moreover, Rubinstein has significantly different polarization states than Sharma. Therefore, the overall operation of Rubinstein is significantly different than Sharma. Accordingly, it is respectfully submitted that Rubinstein should not be combined with Sharma in the manner proposed by the Examiner.

Moreover, please note that Rubinstein does not disclose or suggest that polarization states of the branched optical pulses are equal after being multiplexed as recited, for example, in claim 1.

The above-comments are specifically directed to claim 1. However, it is respectfully submitted that the comments would be helpful in understanding various differences of various other claims over the cited references.

\* \* \*

Claim 12 specifically recites a variable optical attenuator and a variable optical delay unit arranged in each path, so that the intensities and the polarization states of the branched optical pulses are equal after being multiplexed. See, for example, in FIG. 5, and the disclosure on page 9, line 25, through page 10, line 4, of the specification.

For example, FIG. 5 discloses a variable optical attenuator 43, 44 and a variable optical delay unit 45, 46 arranged in each path.

**In contrast, FIG. 9 of Sharma is clear in that there are no mechanisms inserted in the different paths 1/N, 2/N, 3/N.**

Moreover, on page 7 of the outstanding Office Action, the Examiner concedes that Sharma in view of Rubinstein does not expressly disclose the features of claim 12.

It is respectfully submitted that the device of Sharma is not intended to have any type of device inserted into the different optical paths 1/N, 2/N, 3/N. For example, any required devices in Sharma are used before or after the different optical paths 1/N, 2/N, 3/N.

\* \* \*

In view of the above, it is respectfully submitted that the rejections are overcome.

### III. CONCLUSION

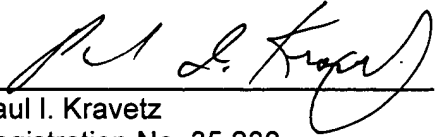
In view of the above, it is respectfully submitted that the application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

If any further fees are required in connection with the filing of this response, please charge the fees to our Deposit Account No. 19-3935.

Respectfully submitted,

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